

Interview Summary

Application No.

10/063,958

Applicant(s)

KOSEKI ET AL.

Examiner

Chuck O. Kendall

Art Unit

2192

All participants (applicant, applicant's representative, PTO personnel):

(1) Chuck O. Kendall.

(3) _____

(2) Stanley Ference 33,879.

(4) _____

Date of Interview: 14 September 2007.

Type: a) ☒ Telephonic b) ☐ Video Conference
c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☐ No.
If Yes, brief description: _____

Claim(s) discussed: Independent claims.

Identification of prior art discussed: _____

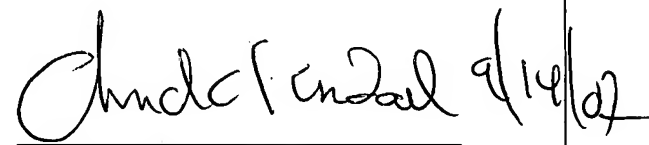
Agreement with respect to the claims f) ☒ was reached. g) ☐ was not reached. h) ☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Called Attorney regarding potential 101 issues. Applicant agreed to respond with a proposed amendment to be entered via Examiner's amendment.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Listing of All Independent Claims
With Proposed Examiner's Amendments

1. **(Original)** A compiling method for converting into object code a program written in source code comprising the steps of:

allocating registers for a program to be compiled; and

generating object code based on the register allocation,

wherein said step of allocating registers includes the steps of

allocating logical registers for instructions in said program, and

performing mapping between said logical registers and physical registers,

so that said physical registers that are live at a procedure call in said program to

be compiled are allocated from the bottom of the register stack.

4. **(Original)** A code generation method for generating code for a program that controls a computer comprising the steps of:

generating code while confirming that registers are allocated for a predetermined instruction; and

upon the calling of the procedure, so long as there is a vacancy in operation resources, copying said registers residing in the register stack, to free registers located at the bottom of said register stack.

5. **(Currently Amended)** A method, for employing a stack register when a processor with a register stack executes a program, comprising the steps of:

when a different procedure is called in a predetermined procedure, said predetermined procedure called before the different procedure, reallocating registers that are allocated for the execution of said predetermined procedure and are live when said different procedure is called, and calling said different procedure; and

upon the return from said different procedure, restoring the register image to the state immediately before the reallocation;

wherein said reallocating registers includes the steps of
reallocating logical registers for instructions in said program, and
performing mapping between said logical registers and physical registers,
so that said physical registers that are live at a procedure call in said predetermined
procedure are allocated from the bottom of the register stack.

7. **(Currently Amended)** A method, for employing a stack register when a program is executed by a processor with a register stack, comprising the steps of:

each time a procedure is called, packing and allocating existing logical registers;
performing said procedure, and restoring the register image to the state before packing;

wherein said step of allocating existing logical registers includes the steps of

allocating existing logical registers for instructions in said program, and
performing mapping between said existing logical registers and physical
registers, so that said physical registers that are live at the procedure call are allocated
from the bottom of the register stack.

8. (Currently Amended) An apparatus for converting into machine language code the source code of a program written in a program language, the apparatus comprising:

a register allocator, for allocating registers for instructions in said program to be compiled; and

a code generator, for generating object code based on the register allocation process performed by said register allocator,

wherein said register allocator allocates logical registers for instructions in said program to be compiled, and allocates, to physical registers, said logical registers that are allocated to said instructions of said program, so that said physical registers that are live at a procedure call in said program to be compiled are allocated from the bottom of the register stack;

wherein the apparatus utilizes a processor to converting into machine language
code the source code of a program written in a program language.

10. **(Currently Amended)** An apparatus for converting into machine language code the source code of a program written in a program language, the apparatus comprising:

a register allocator, for allocating registers for instructions in said program to be compiled; and

a code generator, for generating object code based on the register allocation process performed by said register allocator,

wherein said code generator generates code while confirming that registers are allocated for predetermined instructions, and

wherein, upon a procedure being called, said code generator, so long as there is a vacancy in operation resources, copies said registers residing in a register stack, to free registers that are located at the bottom of said register stack;

wherein the apparatus utilizes a processor to converting into machine language code the source code of a program written in a program language.

11. **(Currently Amended)** A computer for converting source code into machine language code, the computer comprising:

input means, for entering source code of a program; and

a compiler, for compiling said source code and converting the compiled code into machine language code,

wherein, before a different procedure is called in a predetermined procedure of a program to be compiled, said compiler generates code for reallocating registers that are allocated for the execution of said predetermined procedure and that are live when said different procedure is called, and generates code, for restoring the register image, upon the return from said different procedure, to the state immediately before the reallocation.

12. (Previously Presented) A method, for controlling a computer for conversion of a program to be executed, which permits said computer to perform, the method comprising:

a process for allocating logical registers for instructions in said program to be executed;

a process for performing mapping between said logical registers and physical registers, so that said physical registers that are live at a procedure call in said program to be compiled are allocated from the bottom of the register stack; and

a process for generating object code based on the mapping process.

13. (Previously Presented) A method, for controlling a computer for conversion of a program to be executed, which permits said computer to perform, the method comprising:

a process for generating code while confirming that registers are allocated for a predetermined instruction; and

a process for, upon the calling of the procedure, so long as there is a vacancy in operation resources, copying said registers residing in said register stack, to free registers located at the bottom of said register stack.

14. (Previously Presented) A method, for controlling a computer to execute an operation, which permits said computer to perform, the method comprising:

a process for, when a different procedure is called in a predetermined procedure, reallocating registers that are allocated for the execution of said predetermined procedure and that are live when said different procedure is called, and calling said different procedure; and

a process for, upon the return from said different procedure, restoring the register image to the state immediately before the reallocation.

15. (Original) A storage medium on which a conversion program is stored that controls a computer for conversion of a program to be executed, said conversion program permitting said computer to perform, the conversion program comprising:

a process for allocating logical registers for instructions in said program to be executed;

a process for performing mapping between said logical registers and physical registers, so that said physical registers that are live at a procedure call in said program to be compiled are allocated from the bottom of the register stack; and

a process for generating object code based on the mapping process.

16. **(Original)** A storage medium on which a conversion program is stored that controls a computer for conversion of a program to be executed, said conversion program permitting said computer to perform, the conversion program comprising:

a process for generating code while confirming that registers are allocated for a predetermined instruction; and

a process for, upon the calling of the procedure, so long as there is a vacancy in operation resources, copying said registers residing in said register stack, to free registers located at the bottom of said register stack.

17. **(Original)** A storage medium on which a conversion program is stored that controls a computer for conversion of a program to be executed, said conversion program permitting said computer to perform, the conversion program comprising:

a process for, when a different procedure is called in a predetermined procedure, reallocating registers that are allocated for the execution of said predetermined procedure and that are live when said different procedure is called, and calling said different procedure; and

a process for, upon the return from said different procedure, restoring the register image to the state immediately before the reallocation.